

REMARKS

The Office Action indicated that Claims 1-8 and 15-21 were allowed. Claim 14 was indicated to be allowable if rewritten in independent form, and accordingly, Claim 23 represents the allowed subject matter of Claim 14.

Claims 12 and 13 have been amended, while Claim 11 has been amended to depend from Claim 12. The newly drafted dependent Claim 24 also depends from Claim 12.

Claim 12 is now characterized by the protective layer on a fluorescent tube containing an oxide of at least one element selected from the group consisting of titanium, zirconium, vanadium, niobium, tantalum, molybdenum, tungsten, thallium, stannum, plumbum, bismuth, praseodymium, neodymium, samarium, gadolinium, dysprosium, holmium, erbium, thulium, ytterbium, and lutetium.

As noted in our application on Page 4, Lines 2-6, a florescent lamp, when subjecting the mercury vapor to an electric discharge, will produce ultraviolet light with a peak wavelength of 250nm. As set forth in Claim 12, an emissive element, when exposed to such ultraviolet light, can emit a long wavelength ultraviolet light along with a visible light. The long wavelength ultraviolet light, in turn, can excite the phosphorous layer to emit secondary visible light to thereby improve the efficiency and increase the luminous flux of the fluorescent lamp.

The *Watanabe et al.* (U.S. Patent No. 5,801,483) features a fluorescent lamp with one or two phosphorous layers coated on an interior portion of the tube. More particularly, *Watanabe et al.* suggests four luminescent compounds that produce visible light and ultraviolet light having wavelengths in the range of 320nm to 410 nm. This reference teaches a photocatalyst layer formed external to a soda glass tube and particularly a soda glass tube that will not pass ultraviolet rays under 300nm in wavelength to limit ultraviolet light to such a wavelength that is

suitable for the photocatalytic action. The phosphorous layer disclosed in the *Watanabe* reference is formed to specifically emit light, including ultraviolet radiation in the range of 320 to 420nm, referring, for example, to Column 3, Lines 32-63. Thus, *Watanabe* is not seeking to provide an emissive metal oxide that would achieve the purposes of the present invention. The photocatalytic layer is coated on the outer surface of the luminair so as to receive the radiation above 300nm. See Column 4, Lines 3-14.

Claim 12 (Amended) defines only emissive elements that are not taught by the *Watanabe et al.* reference.

An alternative embodiment is disclosed in Figure 7 of *Watanabe et al.* that has a pair of phosphorous layers, but it is specifically noted that the first phosphorous layer coated on the tube or envelope is prone to deterioration if it receives ultraviolet rays of 185nm or 254nm as noted on Column 5, Lines 40-55.

Selecting a specific luminescent compound that would be applicable to the purpose of the present invention would not be suggested by the *Watanabe* reference. Since Claim 12, which is the only independent claim at issue, has been amended so that the emissive element is neither suggested nor taught by *Watanabe*, it is believed that the present application is allowable, consistent with the indication of the allowable subject matter indicated in the Office Action. Since Claim 12, as amended, by using a protective layer containing oxides of emissive elements not disclosed in the *Watanabe* reference for the purpose of increasing the luminescent efficiency of the fluorescent lamp is now provided, it is believed to be unobvious over that of the *Watanabe et al.* disclosure, either alone or in combination with any secondary references.

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Applicant recently cited references that have been raised in a co-pending application and request that they be made of record. It is not believed that these references are more relevant than the references that have been applied in the present prosecution.

It is believed that the case is now in condition for allowance, and an early notification of the same is requested. If the Examiner believes that a telephone interview will help further the prosecution of the present case, the undersigned attorney can be contacted at the listed telephone number.

I hereby certify that this correspondence is being deposited with the United States Postal Service as First Class Mail in an envelope addressed to the Mail Stop AF, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on June 9, 2003.

By: SHARON FARNUS

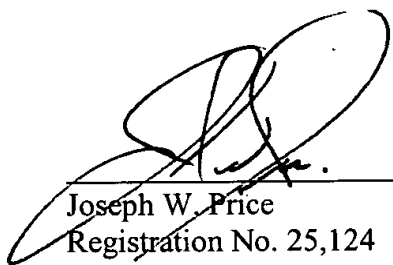
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Signature

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Very truly yours,

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